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## TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	10/764,087
Filing Date	January 23, 2004
First Named Inventor	Demir et al.
Art Unit	2681
Examiner Name	Not Yet Known
Attorney Docket Number	I-2-0448.1US

Total Number of Pages in This Submission

### ENCLOSURES (Check all that apply)

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Fee Transmittal Form                                | <input type="checkbox"/> Drawing(s)   | <input type="checkbox"/> After Allowance communication to Technology Center (TC)        |
| <input type="checkbox"/> Fee Attached  | <input type="checkbox"/> Licensing-related Papers   | <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences     |
| <input type="checkbox"/> Amendment/Reply                                     | <input type="checkbox"/> Petition   | <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) |
| <input type="checkbox"/> After Final   | <input type="checkbox"/> Petition to Convert to a Provisional Application   | <input type="checkbox"/> Proprietary Information  |
| <input type="checkbox"/> Affidavits/declaration(s)                           | <input type="checkbox"/> Power of Attorney, Revocation  | <input type="checkbox"/> Status Letter  |
| <input type="checkbox"/> Extension of Time Request                           | <input type="checkbox"/> Change of Correspondence Address   | <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):         |
| <input type="checkbox"/> Express Abandonment Request                         | <input type="checkbox"/> Terminal Disclaimer  |   |
| <input type="checkbox"/> Information Disclosure Statement                    | <input type="checkbox"/> Request for Refund   |   |
| <input type="checkbox"/> Certified Copy of Priority Document(s)              | <input type="checkbox"/> CD, Number of CD(s) _____  |   |
| <input type="checkbox"/> Response to Missing Parts/Incomplete Application    | Remarks   |   |
| <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 | Transmittal Form with Certificate of First Class Mailing; (1 pg.)<br>Communication Re Favorable IPER by IPEA/US in<br>Corresponding International Application (2 pgs.); and<br>Copy of IPER including approved claims (8 pgs.). |   |

### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	John C. Donch Jr.	Reg. No. 43,593
Signature		
Date	February 22, 2005	

### CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Typed or printed name	John C. Donch Jr.
Signature	
Date	February 22, 2005

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of:

Demir et al.

**Application No.:** 10/764,087

**Confirmation No.:** 8244

**Filed:** January 23, 2004

**For:** UNSUITABLE CELL EXCLUSION IN  
WIRELESS COMMUNICATION SYSTEMS

**Group:** 2681

**Examiner:** Not Yet Known

Our File: I-2-0448.1US

Date: February 22, 2005

**COMMUNICATION RE FAVORABLE IPER BY  
IPEA/US IN CORRESPONDING INTERNATIONAL APPLICATION**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This communication is to advise the Examiner of the favorable International Preliminary Examination Report (IPER) issued by the United States Patent and Trademark Office acting as International Preliminary Examination Authority in a corresponding international application. A copy of the IPER is enclosed.

The original PCT claims correspond to the claims in this U.S. application. A copy of the approved claims as published is also enclosed.

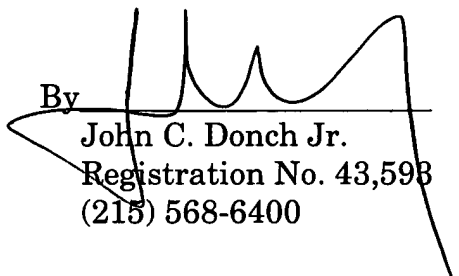
**Applicant:** Demir et al.  
**Application No.:** 10/764,087

In view of the fact that PCT claims 1-11 have all been found to meet the international standards of patentability, prompt examination and allowance are respectfully requested.

Respectfully submitted,

Demir et al.

By

  
John C. Donch Jr.  
Registration No. 43,598  
(215) 568-6400

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JCD/dmr

Enclosures (2)

# PATENT COOPERATION TREATY

GBH/JCS  
(556)

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To: JOHN C. DONCH JR. UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103	RECEIVED  NOV 04 2004  <b>VOLPE &amp; KOENIG, P.C.</b>	<div style="text-align: center;"> <b>PCT</b>            NOTIFICATION OF TRANSMITTAL OF            INTERNATIONAL PRELIMINARY            REPORT ON PATENTABILITY            (Chapter II of the Patent Cooperation Treaty)            (PCT Rule 71.1)         </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">           Date of mailing            (day/month/year) <b>02 NOV 2004</b> </div>
Applicant's or agent's file reference  I-2-0448.1WO		<b>IMPORTANT NOTIFICATION</b>
International application No.  PCT/US04/01963	International filing date (day/month/year)  23 January 2004 (23.01.2004)	Priority date (day/month/year)  23 January 2003 (23.01.2003)
Applicant  INTERDIGITAL TECHNOLOGY CORPORATION		

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the *PCT Applicant's Guide*.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed invention is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer <div style="text-align: center;">             Huy Nguyen         </div> Telephone No. 703-305-3283
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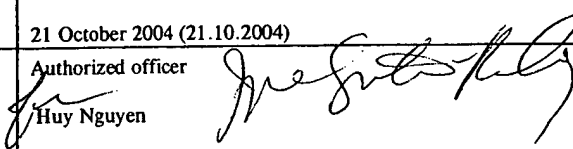
# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference I-2-0448.1WO	<b>FOR FURTHER ACTION</b>	See Form PCT/IPEA/416																								
International application No. PCT/US04/01963	International filing date (day/month/year) 23 January 2004 (23.01.2004)	Priority date (day/month/year) 23 January 2003 (23.01.2003)																								
International Patent Classification (IPC) or national classification and IPC IPC(7): H04Q 7/20 and US Cl.: 455/434,452.1																										
Applicant INTERDIGITAL TECHNOLOGY CORPORATION																										
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p style="margin-left: 20px;">a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p style="margin-left: 20px;">b. <input type="checkbox"/> (sent to the International Bureau only) a total of _____ (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;"><input checked="" type="checkbox"/></td> <td style="width: 20%;">Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>			<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand 30 September 2004 (30.09.2004)	Date of completion of this report 21 October 2004 (21.10.2004)																									
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer  Huy Nguyen Telephone No. 703-305-3283																									

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/US04/01963

## Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☒ the international application as originally filed/furnished
- ☒ the description:
- pages 1-16 as originally filed/furnished
- pages\* NONE received by this Authority on \_\_\_\_\_
- pages\* NONE received by this Authority on \_\_\_\_\_
- ☒ the claims:
- pages 17-19 as originally filed/furnished
- pages\* NONE as amended (together with any statement) under Article 19
- pages\* NONE received by this Authority on \_\_\_\_\_
- pages\* NONE received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- pages 1-7 as originally filed/furnished
- pages\* NONE received by this Authority on \_\_\_\_\_
- pages\* NONE received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

International application No.  
PCT/US04/01963

**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims <u>1-11</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>1-11</u>	YES
	Claims <u>NONE</u>	NO
Industrial Applicability (IA)	Claims <u>1-11</u>	YES
	Claims <u>NONE</u>	NO

**2. Citations and Explanations (Rule 70.7)**

Claims 1-11 meet the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest method for performing initial cell search, the method comprising: performing an exhaustive initial cell search on stored frequencies; performing a non-exhaustive initial cell search on initial frequencies where no cell is found searching the stored frequencies; and performing an exhaustive initial cell search on initial frequencies where no cell is found searching the initial frequencies wherein a hit to an unsuitable cell was detected when said initial frequencies were searched non-exhaustively.

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

International application No.  
PCT/US04/01963

**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

## CLAIMS

What is claimed is:

1. A method for performing initial cell search, the method comprising:  
performing an exhaustive initial cell search on stored frequencies;  
performing a non-exhaustive initial cell search on initial frequencies  
where no cell is found searching the stored frequencies; and  
performing an exhaustive initial cell search on initial frequencies  
where no cell is found searching the initial frequencies wherein a hit to an unsuitable cell was detected when said initial frequencies were searched non-exhaustively.
2. The method of claim 1 wherein the exhaustive initial cell search includes the following steps:  
maintaining a list of any chip-offset locations that lead to unsuitable cells; and  
generating a mask for said chip-offset locations so that subsequent step 1 processing will not detect any primary synchronization codes (PSCs) in the masked chip-offset locations.
3. The method of claim 2 wherein the chip-offset locations that lead to unsuitable cells are obtained after step 3 processing by reading a detected cell's broadcast channel (BCH) to identify the public land mobile network identifier (PLMN ID) of the detected cell.
4. The method of claim 2 wherein the chip-offset locations that lead to unsuitable cells are maintained in a rejected chip-offset list.
5. The method of claim 2 wherein the mask that is generated includes five chips before and after the chip-offset that led to the rejected PSC.

6. A method for performing an exhaustive initial cell search, the method comprising the steps of:

performing step 1 of initial cell search wherein any rejected chip-offsets are masked so that any primary synchronization codes (PSCs) located within the rejected chip-offsets are excluded;

decreasing the gain setting where no detection is made while performing step 1 initial cell search;

running step 2 of initial cell search where there is a detection while performing step 1 of initial cell search;

running step 3 of initial cell search where there is a detection while performing step 2 of initial cell search;

reading the broadcast channel of a cell to obtain the public land mobile network identifier (PLMN ID) detected while performing step 3 of initial cell search;

determining whether the detected cell is unsuitable based on the PLMN ID of the detected cell; and

adding to a rejected chip-offset list, the chip-offset of the PSC wherein the PSC led to the detected cell and the detected cell ID is unsuitable.

7. The method of claim 6 wherein rejected cells are associated with the cell's code group so that rejected code groups are detected in step 2 thereby avoiding the performance of step 3 processing on what will lead to an unsuitable cell.

8. A wireless transmit/receive unit (WTRU) comprising:  
a memory configured for storing initial and stored frequencies; and  
a processor configured to perform initial cell search wherein chip-offset locations leading to unsuitable cells are masked so that said chip-offset locations are not detected when running subsequent initial cell searches at the same frequency.

9. The WTRU of claim 8 wherein the processor is further configured to perform an exhaustive initial cell search on stored frequencies; perform a non-exhaustive initial cell search on initial frequencies where no cell is found searching the stored frequencies; and perform an exhaustive initial cell search on initial frequencies where no cell is found searching the initial frequencies wherein a hit to an unsuitable cell was detected when said initial frequencies were searched non-exhaustively.

10. The WTRU of claim 9 wherein when the processor is performing an exhaustive cell search, the processor maintains a list of any chip-offset locations that lead to unsuitable cells and generates a mask for said chip-offset locations so that primary synchronization codes (PSCs) in the masked chip-offset locations are not detected.

11. The WTRU of claim 10 wherein the processor is configured to associate rejected cells to a code group number so that rejected code groups are detected in step 2 of an exhaustive initial cell search thereby avoiding the performance of step 3 processing on what will lead to an unsuitable cell.